



EP 0065617

DEC 1982

04884 J/49	A97 E23 G02 T04	IBMC 18.05.81	A(12-VV7D) E(25-E) G(2-A4A)																																				
IBM CORP	*EP --65-617	089																																					
18.05.81-US-264760 (01.12.82) C09d-11/02																																							
Prepn. of water-based inks for ink jet devices - by thermal stress of ink concentrates, filtration, and addn. of inhibitors of particle formation		solubilization of impurities (with HCl). Heating is pref. for 60-65 hrs. at 50°C, and the final formulation is pref. filtered (e.g. through 'Celite' (RTM)) to remove any insol. oils.																																					
D/S: E(DE FR GB IT)		<u>COMPOSITION</u>																																					
H ₂ O-based ink (I) for ink jet devices is prep'd. as follows: (a) a diluted H ₂ O-based concentrate of (I) is formed which is free of agents (II) known to inhibit particle formation and/or growth; (b) the concd. ink is heated for long enough to produce particle formation and/or growth; (c) the concd. ink is filtered; and (d) an aq. vehicle and (II) are added.		<table border="1"> <thead> <tr> <th></th> <th>A (wt.%)</th> <th>B (wt.%)</th> </tr> </thead> <tbody> <tr><td>Nigrosine dye</td><td>14.0</td><td>7.0</td></tr> <tr><td>Carbowax 200 (RTM)</td><td>20.0</td><td>10.0</td></tr> <tr><td>Diethylene glycol</td><td>20.0</td><td>10.0</td></tr> <tr><td>N-methyl-2-pyrrolidone</td><td>8.0</td><td>4.0</td></tr> <tr><td>Butyl carbitol</td><td>8.0</td><td>4.0</td></tr> <tr><td>Versenol 120 (RTM)</td><td>0.5</td><td>0.5</td></tr> <tr><td>Triton QS-44 (RTM)</td><td>0.4</td><td>0.2</td></tr> <tr><td>Na Omadine</td><td>0.2</td><td>0.1</td></tr> <tr><td>NH₄OH</td><td>2.0</td><td>1.0</td></tr> <tr><td>Water</td><td>27.4</td><td>62.95</td></tr> <tr><td>Surfynol 104</td><td>-</td><td>0.25</td></tr> </tbody> </table>			A (wt.%)	B (wt.%)	Nigrosine dye	14.0	7.0	Carbowax 200 (RTM)	20.0	10.0	Diethylene glycol	20.0	10.0	N-methyl-2-pyrrolidone	8.0	4.0	Butyl carbitol	8.0	4.0	Versenol 120 (RTM)	0.5	0.5	Triton QS-44 (RTM)	0.4	0.2	Na Omadine	0.2	0.1	NH ₄ OH	2.0	1.0	Water	27.4	62.95	Surfynol 104	-	0.25
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<u>ADVANTAGES</u>		(16pp478). (E) ISR:- GB2031002																																					
The method affords a non-toxic, H ₂ O-based ink-jet ink (partic. for use in continuous stream devices) which has high tolerance to evapn., and good light and H ₂ O-fastness. In addn., the ink shows exceptionally rapid paper penetration, resists particle growth, and remains stable under stresses such as heat, cold, and evapn.																																							
<u>DETAILS</u>																																							
The concd. ink pref. includes a purified and/or press-cake dye. pref. nigrosine, which is pref. purified by		EP--65617																																					

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NOV 1982

10392 K/05 HONSHU PAPER MFG KK 12.05.81-JP-070233 (17.11.82) B41m-05 D21h-01/28 Ink-jet recording sheet for use with water-based inks - has coating contg. pigment and binder including styrene-alkyl maleate-acrylic terpolymer or terpolymer-cationic organic cpd. prod.	A82 F09 G02 P75 (A13) HONP 12.05.81 *J5 7187-289	A(4-C4, 4-F1, 5-B3, 12-B3, 12-W7F) F(5-A6B) G(2-A5C, 5-F) 2 2 3
C83-010173	A maleate/acrylate terpolymer ammonium salt, 120 g of calcined kaolin, 60g of powdery urea/formaldehyde resin, 0.1 g of antifoaming agent and 0.1 g of sodium pyrophosphate were homogenised for about 1 hr. A 52 g/m ² wood-free paper sheet was coated with the compsn. to form a 4 g/m ² coating layer, which was then calendered with a linear pressure of 5 kg/cm, to obtain the ink-jet recording sheet (9ppW173).	
An ink-jet recording sheet having a coating layer composed mainly of a binder and a pigment is characterised in that 50 wt.% or more of the binder is (i) a terpolymer prepared by copolymn. of styrene, a monoalkylmaleate and an acrylic comonomer, or (ii) a reaction product prepared from the terpolymer and a cationic organic cpd.		
The use is claimed of calcined kaolin (or its mixture with powdery ureaformaldehyde resin) as the pigment.		
USE/ADVANTAGE		
The sheet is used for recording with water-based inks. Ink-set time is short, and reduced spreading of the ink combined with improved lightfastness of the records is obtained.		
EXAMPLE		
600 g of 15 wt.% an aqs. soln. of styrene/monoalkyl		